APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,906	08/09/2001	Chakki Kavoori	I4303.0053	5185

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EXAMINER
TANG, KENNETH

ART UNIT	PAPER NUMBER
2195	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/927,906	KAVOORI ET AL.
	Examiner	Art Unit	
	Kenneth Tang	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>15 October 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-40</u> is/are pending in the application.

   4a) Of the above claim(s) <u>18-25 and 35-40</u> is/are withdrawn from consideration.

5)☒ Claim(s) <u>29-34</u> is/are allowed.

6)☒ Claim(s) <u>1-3,6,8,9,11-13,15-17 and 26-28</u> is/are rejected.

7)☒ Claim(s) <u>4,5,7,10 and 14</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   In view of the Appeal Brief filed on 10/15/07, PROSECUTION IS HEREBY

REOPENED. New grounds of rejections are set forth below.

      To avoid abandonment of the application, appellant must exercise one of the following

two options:

      (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37

CFR 1.113 (if this Office action is final); or,

      (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an

appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee

can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have

been increased since they were previously paid, then appellant must pay the difference between

the increased fees and the amount previously paid.

      A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing

below:

                                                  MENG-AI T. AN
                                    SUPERVISORY PATENT EXAMINER
                                    TECHNOLOGY CENTER 2100

2.   Claims 1-17 and 26-34 are presented for examination. Claims 18-25 and 35-40 have

been withdrawn by the Applicant.

Specification

3.   Applicant is reminded to further amend the Specification submitted on 6/13/05 such that

the latest relevant application status is reflected with US patent numbers, if applicable.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claims 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 15 recites the limitations "the secondary list" in line 2 and "the primary list" in line 3. There is insufficient antecedent basis for this limitation in the claim. Claims 16-17 are also rejected as being dependent claims upon rejected independent claim 15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claims 1, 3-4, 6, 8-9, 12, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleeson (US 6,353,846 B1) in view of Rawson et al. (hereinafter Rawson) (US 5,692,204).**

6.   As to claim 1, Fleeson teaches a wireless communication device (software definable radio, col. 3, line 19) having a processor, a computer readable memory, and at least one hardware resource coupled to each other (Fig. 2), a method of operating the hardware resources

comprising the steps of:

a) locating a first address (address for the first required resource module, modem

Fig. 6) in the computer readable memory of the wireless communication device, the first

address containing operating information (col. 9, lines 48 – 64) associated with a first

hardware resource (first resource module in the link object);

b) transmitting operating information associated with the first address to the first

hardware resource (col. 12, lines 18 – 20);

wherein the method is performed in real time while the wireless communication

device is operating (col. 11, lines 27 – 31).

7.   In summary, Fleeson teaches a link object storing all the required resource

modules in a list to implement a function (col. 9, lines 41 – 44). The resource manager

sequentially programs all of the listed resource modules with the required parameters in

response to a user selecting a new virtual communication unit (VCU) in real time (col. 11, line

27 – col. 12, line 25).

8.   Fleeson does not explicitly teach a pointer associated with the first address that

locates a subsequent address for a subsequent hardware resource. Specifically, Fleeson

teaches a list of resource modules. However, Fleeson fails to teach the detail to

sequentially access each of the resource modules in the list.

9.   Rawson et al teach another communication device (col. 3, lines 19 – 21) having a

resource list with a plurality of required resource modules (Fig. 3). Specifically, the

resource list is implemented as a linked list such that each entry has a pointer pointing to

the next required resource module (col. 6, lines 57 – col. 7, line 4). Once the first entry of

the list is located, the system obtains the parameters for the next resource module based upon the pointer of the previous resource module. The system repeats the process in real time until all the resource modules are programmed accordingly. "A process is promoted to the run queue if it is not blocked waiting on any other system event AND it has all of its resource requirements satisfied" (col. 8, lines 27-30 and emphasis added by the Examiner). The system, inherently has to traverse the resource linked list for the selected process in real time to complete the stated functions.

10.   It would have been obvious to one of ordinary skill in the art to combine the teachings of Fleeson and Rawson because they both teach a resource list having a plurality of modules. Rawson's explicit teaching of using a linked list to implement the resource list would allow a skill in the art to access Fleeson's resource list.

11.   As per claim 3, Fleeson teaches the invention as claimed, including the wireless communication device recited in claim 1 wherein the method further comprises the step of:

repeating steps a) through c) for each of multiple sets of operating information associated with multiple uses of the hardware resource (see Abstract, col. 4, lines 7-22, col. 9, lines 35-47, col. 12, lines 14-20).

12.   As per claim 4, Fleeson teaches the invention as claimed, including the wireless communication device recited in claim 3 wherein the multiple sets of operating information are utilized within a system cycle (col. 3, lines 1-25 and 50-63, col. 4, lines 1-16). Applicant's Specification, on page 12, lines 30-31, states that a system cycle can be referred to as a virtual resource.

13.   As per claim 6, Fleeson teaches the invention as claimed, including the wireless communication device recited in claim 1 wherein the information for operating the first hardware resource includes semi-static hardware control parameters (col. 4, lines 8-13).

14.   As per claim 8, Fleeson in view of Rawson is silent in wherein the information for operating the first hardware resource includes dynamic hardware control parameters. However, it is well known to one of ordinary skill in the art that parameters could purposely be chosen to be static or dynamic depending on need. Static parameters are parameters which do not vary during time. Dynamic parameters are able to vary and thus can provide for more flexibility. It would be obvious to one of ordinary skill in the art for the parameters of Fleeson in view of Rawson to be dynamic so that it could take advantage of this flexibility.

15.   As per claim 9, Fleeson teaches the invention as claimed, including the wireless communication device recited in claim 8 wherein the dynamic hardware parameters are controlled by dedicated hardware resources (col. 4, lines 8-22, col. 6, lines 20-32).

16.   As per claim 12, Fleeson teaches the wireless communication device recited in claim 1

wherein the hardware resources include at least one downlink transmitter element (col. 3, lines

19-25, col. 4, lines 14-22).

17.   As per claim 26, Fleeson teaches the invention as claimed, including a wireless

communication device having a processor, a means for performing the method of claim 1 (col. 3,

lines 64-67 through col. 4, lines 1-22, Fig. 1, item 8).

18.   As to claim 27, Fleeson teaches a method of controlling hardware resources in a wireless

communication device having a processor and a memory coupled to each other, the method

comprising of:

    locating a first memory address (col. 9, lines 48 – 64) in the memory associated with a

first hardware resource (address for the first required resource module, modem, Fig. 6);

    transmitting control information associated with the first memory address to the first

hardware resource to enable utilization of the first hardware resource (col. 12, lines 18 – 20); and

    wherein the method is performed in real time while the wireless communication device is

operating (col. 11, lines 27 – 31).

19.   In summary, Fleeson teaches a link object storing all the required resource

modules in a list to implement a function (col. 9, lines 41 – 44). The resource manager

sequentially programs all of the listed resource modules with the required parameters in

response to a user selecting a new virtual communication unit (VCU) in real time (col. 11, line

27 – col. 12, line 25).

20.   Fleeson does not explicitly teach determining a pointer associated with the first address

that locates another memory address for a subsequent hardware resource. Specifically, Fleeson

.teaches a list of resource modules. However, Fleeson fails to teach the detail to sequentially

access each of the resource modules in the list.

21.   Rawson et al teach another communication device (col. 3, lines 19 – 21) having a

resource list with a plurality of required resource modules (Fig. 3). Specifically, the

resource list is implemented as a linked list such that each entry has a pointer pointing to

the next required resource module (col. 6, lines 57 – col. 7, line 4). Once the first entry of

the list is located, the system obtains the parameters for the next resource module based

upon the pointer of the previous resource module. The system repeats the process in real

time until all the resource modules are programmed accordingly. "A process is promoted to the

run queue if it is not blocked waiting on any other system event AND it has all of its resource

requirements satisfied" (col. 8, lines 27-30 and emphasis added by the Examiner). The system,

inherently has to traverse the resource linked list for the selected process in real time to complete

the stated functions.

22.   It would have been obvious to one of ordinary skill in the art to combine the

teachings of Fleeson and Rawson because they both teach a resource list having a

plurality of modules. Rawson's explicit teaching of using a linked list to implement the

resource list would allow a skill in the art to access Fleeson's resource list.

23.   As per claim 28, it is rejected for the same reasons as stated in the rejection of claim 27.

In addition, Fleeson teaches the structure to support the method of claim 27 (col. 3, lines 64-67

through col. 4, lines 1-22, Fig. 1, item 8).

24.   **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fleeson (US**

6,353,846 B1) in view of Rawson et al. (hereinafter Rawson) (US 5,692,204), and further in

view of Pelham et al. (hereinafter Pelham) (US 4,967,375).

25.   As per claim 2, Fleeson in view of Rawson is silent wherein the wireless communication

device recited in claim 1 wherein the method further comprises the step of: e) returning to the

first pointer when all of the quantity of pointers has been exhausted in a list stored in memory.

However, Pelham discloses using a pointer that points to current memory location in memory

and returning to its first pointer location, exhausting the list stored in memory (col. 34, lines 28-

39). It would have been obvious to one of ordinary skill in the art at the time the invention was

made to include the feature of returning to the first pointer when all of the quantity of pointers

has been exhausted in a list stored in memory to the existing pointers to memory in Fleeson in

view of Rawson. The suggestion/motivation for doing so would have been to provide the

predicted result of having an indication that all objects have been traversed and retraversed (col.

34, lines 31-33).

26.   **Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fleeson (US 6,353,846 B1) in view of Rawson et al. (hereinafter Rawson) (US 5,692,204), and further in view of Quick, Jr. (US 5,673,259).**

27.   As per claims 11, Fleeson and Rawson are silent wherein the hardware resources include at least one searcher element. However, Quick, Jr. discloses a remote communication unit 108 that has one or more searcher elements 210 (see Fig. 2, col. 8, lines 6-20). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the VCU of Fleeson in view of Rawson such that it would contain one or more searcher elements as in the remote communication unit of Quick. The suggestion/motivation would have been to provide the predicted result of searching for information signals received (col. 8, lines 6-20).

28.   **Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fleeson (US 6,353,846 B1) in view of Rawson et al. (hereinafter Rawson) (US 5,692,204), and further in view of Arazi et al. (hereinafter Arazi) (US 2001/0041594 A1).**

29.   As per claim 13, Fleeson in view of Rawson is silentwherein the hardware resources include at least one matched filter element. Fleeson does teach having signal processing components for its communication device, VCU (col. 1, lines 48-64). Fleeson is silent in that at least one matched filter element is used. However, Arazi discloses that using a matched filter is a known technique for signal detection for communication between a mobile device and one or

more base stations ([0383]-[0384]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use one or more matched filter elements to the communication device of Fleeson in view of Rawson. The motivation for doing so would have been to provide signal detection and an estimation of signal quality, for example ([0383]-[0384]).

30.   **Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fleeson (US 6,353,846 B1) in view of Rawson et al. (hereinafter Rawson) (US 5,692,204), and further in view of Cisco Telephony Controller Software Release 4 Dial Plan Provisioning Guide (hereinafter Cisco) (Appendix A of the Cisco Telephony Controller Software Release 4 Dial Plan Provisioning Guide, April, 19, 1999 - date located on page 2).**

31.   As per claim 15, Fleeson and Rawson are silent wherein only the hardware resources in the secondary list that are grouped together for a specific category are enabled via the pointer from the primary list. However, Cisco teaches a telephony controller application that has a pointer to a Trunk Group data table (page 11, Step 4), wherein the Truck Group can be sorted according to preferences using a primary list and a secondary list (page 12, Step 5 and 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fleeson and Rawson to include the feature of a secondary list that is grouped together for a specific category enabled via the pointer from a primary list. The suggestion/motivation would have been to allow for increasing the features of Fleeson in view of Rawson's mobile wireless device by allowing it to have said preferences of Cisco (page 12, Step 5).

Response to Arguments

32.   Applicant's arguments have been fully considered but they are moot in view of the new

grounds of rejections.

Allowable Subject Matter

33.   Claims 29-34 are allowed.

34.   Claims 5, 7, 10, 14, 16, and 17 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims in addition to overcoming any rejections under 35

U.S.C. 112, 2nd paragraph, set forth in this Office action.

35.   The limitations of claims 14 and 15, added into claim 1, were found to contain allowable

subject matter, if written to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set

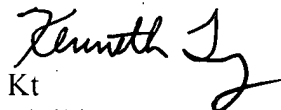forth in this Office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The

examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kt
1/3/08